



Unmanned Aircraft Systems (UAS) Handbook

Date: May 3, 2021

Authors: EPA's UAS Community of Practice

Office: EPA Office of Mission Support (OMS)

Contact: EPA_UAS@epa.gov

Contents

Purpose	1
Audience	1
Getting Started with UAS at EPA.....	1
UAS Project Planning Checklist	1
Considerations Prior to Initiating a UAS Project	3
Appropriations Constraints	3
Communications and Reporting	3
Project Site Considerations	4
Key Points of EPA’s UAS Policy.....	4
EPA Budget and Financial Considerations Related to UAS	5
Privacy, Civil Rights and Civil Liberties Protections.....	6
Civil Rights and Civil Liberty Protections	6
Privacy	6
Accountability	7
Transparency.....	7
IT Security.....	7
Compliance Monitoring and Enforcement	7
UAS Data Management.....	8
Forms and Templates Related to UAS Roles and Responsibilities.....	10
Reporting Requirements.....	11
Appendix	12
EPA UAS Key Points of Contact	12
EPA UAS Web Resources.....	12
EPA UAS Forms, Tools and Templates	12
EPA UAS Community of Practice (CoP)	13
Sample Language for Contracts and Interagency Agreements	14

Purpose

The purpose of this document is to aid Environmental Protection Agency (EPA) project leads, technical leads, and managers in understanding key topics related to directing Unmanned Aircraft Systems (UAS) projects. Content provided in this document includes material derived from the [EPA UAS Policy](#) as well as recommendations that have been provided by those with UAS experience to assist individuals in getting started with their own UAS projects. Notations are provided throughout the text to help differentiate between policy language and unofficial recommendations. Content derived or summarized from the policy is noted as **UAS Policy Information**. This handbook is a living document that will be updated on a semi-annual basis as EPA's UAS program evolves. Please review [EPA's UAS Policy](#) to understand official policy requirements.

Audience

The primary audience for this document includes EPA project leads, technical leads, and managers who are working on or planning to work on efforts that involve UAS technology, as well as other individuals who need additional information about EPA's UAS Policy. It is assumed that readers of this document are familiar with [EPA's UAS Policy](#).

Getting Started with UAS at EPA

Working with UAS requires adhering to several restrictions, including Federal Aviation Administration (FAA) rules, privacy considerations, and appropriations constraints. It is recommended that personnel proceeding with UAS projects at EPA familiarize themselves with basic information related to UAS at the [FAA Website](#). However, keep in mind that EPA is not permitted to purchase unmanned aircraft and EPA personnel are not permitted to pilot unmanned aircraft. UAS services are obtained by EPA through contractors and other government partners. Personnel hired to perform UAS work should be proficient in FAA rules.

[EPA's UAS Key Points of Contact](#) may offer input within key subjects such as privacy, security, enforcement, and compliance, grants and financial questions that will assist with how best to proceed with your UAS project to obtain data collection objectives.

UAS Project Planning Checklist

This checklist may be used to understand steps needed to initiate a UAS project at EPA. Programs or Regions may tailor the list within their own implementation plans to reflect specific needs.

- Review the "Browse Reports" Tab at the [EPA UAS Reporting Tool](#) (internal EPA access only) to see if you can use data from any UAS projects that may already exist for your area of interest.
- Join the [EPA UAS Community of Practice \(EPA staff and contractors only\)](#)
- Review your National Program's UAS Implementation Plan and training resources. Regional staff must follow the National Program Manager (NPM)/Assistant Administrator (AA) developed UAS Implementation Plan for their Program. EPA NPM UAS Procedures/Implementation Plans that have been developed and shared to date are accessible [here](#) (internal EPA access only). Ensure

that you have received the correct approvals based on your NPM's UAS Implementation Plan. Part of the NPM Implementation Plans will include Established Categories of Use for that National Program. Ensure that your mission falls into one of the Established Categories of Use.

- Review any Regional procedures that have been developed for the Region in which the flight will occur.
- Verify that suitable [appropriated funds](#) are available for UAS data collection efforts.
- Review mission/project site location to determine whether operations occur over airspace that covers private property.
 - If operations occur over private property, fill out a [private property access agreement](#). The form provided in the Appendix is an example from EPA Region 1.
 - Consider possible impacts to adjacent properties not covered by the agreement (more details below).
- Determine if there is an enforcement and compliance aspect to your project. If so, review and follow enforcement and compliance requirements outlined in the UAS Policy and established by the Office of Enforcement Compliance Assurance (OECA).
- Provide written notification to the Office of Public Affairs (OPA) at least three working days in advance of any use (single use/event) of UAS. Contact your Regional Public Affairs Director (PAD) at least three days before the UAS flight. If the project is being managed by a Program Office, the Regional Public Affairs Director for the Region in which the mission will take place should be contacted. A list of Regional PADs is provided in the [Appendix](#). Contacting your Regional PAD early in the planning phase of your project is advised so that the PAD can assist with communications and outreach to local communities and police departments. Depending on the Region in which the project is located, the level of involvement by the PAD or the Regional privacy liaison officer will vary.
- Review data collection efforts to determine if any Personally Identifiable Information (PII) or Sensitive Personal Identifiable Information (SPII) may be collected. If so, contact your [Liaison Privacy Official](#) (EPA internal access only) or the [National Privacy Program](#) early in the project planning process to ensure that aspects of the [EPA Privacy Policy](#) are being adhered to.
- Access the [EPA Tool to Report on UAS Activities](#) (EPA internal access only) to report UAS projects to OMS. The EPA UAS Project Manager is ultimately responsible for ensuring that UAS mission and flight data is entered into the [EPA Tool to Report on UAS Activities](#) (EPA internal access only), but project managers may delegate the data entry to other individuals as desired.
- Plan for collecting, processing, analyzing, and disseminating data gathered by a UAS:
 - ☐ Determine if your office uses a UAS Data Management Plan, and if so, adopt it.
 - ☐ Review your organization's Quality Assurance Project Plan (QAPP) to review data quality objectives and delivery specifications.
 - ☐ Define data delivery requirements (e.g., accuracy, overlap, project boundaries), including raw data, metadata, and flight logs.
 - ☐ Review the EPA's national [Geospatial Deliverable Standard](#).
 - ☐ Evaluate post processing requirements and resources.
 - ☐ Identify how digital data will be delivered to your office.
 - ☐ Identify data storage options.
- Review [EPA UAS Web Resources](#) (internal EPA access only) and [EPA UAS Forms, Tools and Templates](#) (internal EPA access only) to familiarize yourself with available resources.

- Review [Sample Language](#) for Contracts and Interagency Agreements.

Considerations Prior to Initiating a UAS Project

Before embarking on a new UAS project, understanding appropriations constraints, communications requirements, and project site considerations can help ensure that requirements specific to UAS technology use at EPA are addressed. EPA cannot purchase UAS or direct contractors to purchase UAS on EPA's behalf. EPA cannot lease UAS or direct contractors to lease UAS on EPA's behalf. EPA personnel cannot operate/fly contractors' UAS. EPA can task contractors to use UAS in performance of work effort as long as the appropriate appropriations are used to fund the contract.

Appropriations Constraints

EPA may only "maintain" or "operate" aircraft using funds specifically appropriated for that purpose. Appropriation accounts that are specifically appropriated for the maintenance and operation of aircraft and thus may be used to direct UAS collection efforts via the methods discussed below **may change over time** as Congress enacts additional authorities each fiscal year. Currently (as of Fiscal Year 2021) EPA may use the following accounts to **task contractors** to use aircraft in the performance of the work effort:

- **Science and Technology (S&T) Funds**
- **Environmental Program Management (EPM) Funds, including reimbursable EPM provided by the Federal Emergency Management Agency (FEMA) under the Stafford Act**
- **Annually appropriated Superfund Funds (not special account funds)**
- **Oil Funds, including reimbursable oil funds provided to EPA by the Coast Guard via Pollution Removal Funding Agreement (PRFA)**

For information regarding any other appropriation account's availability for use of aircraft, consult with the [Office of General Counsel, Civil Rights and Finance Law Office](#).

Communications and Reporting

- **UAS Policy Information:** Regional Administrators or other key officials must provide written notification at least three working days in advance of any use (single use/event) of UAS to the **NPM** and the **Office of Public Affairs**.
 - The UAS Implementation Plan or Procedure for each NPM should be followed concerning notifications and approvals.
 - The requirement to communicate with OPA should be fulfilled through Regional and Program Office UAS project managers contacting the Regional Public Affairs Director (PAD) a minimum of three days before a UAS flight. A list of Regional PADs is provided in the [Appendix](#).
 - It is recommended to reach out to the Regional PAD early in the project planning process. Depending on the Region in which the project is located, the level of involvement by the PAD or the Regional privacy liaison officer will vary.
- During exigent circumstances, use of UAS must still comply with UAS policies, procedures, and guidelines, including [NPM Established Categories and Conditions of UAS Uses](#) (EPA internal access only) and the required communication should occur as soon as possible.
- Project managers should familiarize themselves with the [EPA Tool to Report on UAS Activities](#) (EPA internal access only) prior to executing a UAS mission. The reporting tool should be used

to report on UAS activities to OMS *at the beginning of the project*. The EPA UAS Project Manager is ultimately responsible for ensuring that UAS mission and flight data is entered into the [EPA Tool to Report on UAS Activities](#) (EPA internal access only) but managers may delegate the data entry to other individuals as desired.

- **UAS Policy Information:** Participation in the [EPA UAS Community of Practice \(COP\)](#) (internal EPA access only) is required by Regions and NPMs choosing to use UAS technology. EPA personnel may sign up for the EPA UAS CoP [here](#). Many of the forms and templates linked to from this UAS Handbook are located at the UAS CoP Teams Channel and the [EPA UAS SharePoint Site](#) (EPA internal access only).

Project Site Considerations

- **UAS Policy Information:** EPA directed UAS operations that occur over airspace that is within private property, (i.e., outside of publicly navigable airspace), may first need to obtain a [private property access agreement](#) (EPA internal access only) unless EPA already has the authority to enter the property.
- When planning your project, consider whether site missions will be flown in “controlled airspace” or where other restrictions may apply. Agency personnel should work with the contracted pilot in command who will identify restrictions. Project managers may also check for possible airspace restrictions around a project area using resources such as Airmap.com, AirspaceLink.com, or B4UFLy app.
- Numerous variables may impact execution of the UAS flight (e.g., FAA rules, weather contingencies, access hurdles, and local interest). It can be useful to provide for **flexibility within the contract**, including site location variability (if possible) or the timing of flights or period of performance. Allowing for a 3-4-day window to ensure flight execution (even when actual flight time is much less than 3-4 days) can account for weather conditions, poor sun angle, or downtime related to using different payloads.
- During the flight, incidental overlap of adjacent properties not covered by an access agreement may occur. Flight planning in advance with the UAS pilot will determine whether overlap is necessary to achieve data quality goals. Communicate to the UAS pilot to avoid overlap in the flight path whenever possible.
- Trim data products to exclude parcels where incidental overlap occurred.
- It would also be prudent to document, before the flight:
 - The compelling governmental interest in taking the photos, e.g., need for complete enforcement investigation, etc.; and
 - Evidence that the least restrictive burden has been placed on the adjacent property owner’s freedom of association, e.g., no photos of license plates on adjacent property or identifiable faces of visitors were taken.

Key Points of EPA’s UAS Policy

This section summarizes high-level key points from [EPA’s UAS Policy](#) and is not intended as a thorough review of the directive.

EPA Budget and Financial Considerations Related to UAS

Where a program is supported by one of the appropriation accounts specifically authorized to use aircraft, EPA personnel may use the following methods to **direct** collection or purchase of UAS data:

- **UAS Policy Information: Contracts and Task Orders:** EPA may use funds specifically appropriated for the use of aircraft or UAS for contracts or task orders that include explicit terms and conditions regarding the maintenance and operation of UAS as applicable. Programs may also acquire preexisting data by contract that may have been previously gathered by UAS. A list of EPA accounts that may be used to **task contractors** to use UAS is accessible [here](#).
- [Example UAS Contract Language](#)
- **UAS Policy Information: Interagency Agreements (IA):** EPA may use funds specifically appropriated for the use of aircraft or UAS to pay another federal agency to utilize a UAS on EPA's behalf, whether the other agency has an independent interest in the flight. Another Agency may also contribute funds for and/or the use of its own aircraft as part of a joint project with EPA. EPA may enter into an interagency agreement to provide funds and other resources for that same project from any appropriation available for that purpose, provided the other agency covers 100% of the costs of purchasing, maintaining, and/or operating the aircraft.
- [Example UAS Interagency Agreement Language](#)
- **UAS Policy Information: Grants (including Cooperative Agreements):** EPA grantees are not restricted from using grant funds from any appropriation account for UAS-related costs so long as doing so would be within the scope of the grant.
 - EPA **may not use State and Tribal Assistance Grant (STAG)** funds to use a UAS directly, even in a direct implementation scenario or when providing in-kind assistance to a grantee, because STAG funds are not specifically appropriated for the purchase, maintenance, or operation of aircraft by EPA.
 - EPA's Office of Grants and Debarment (OGD) is preparing supplemental UAS guidance, specifically terms and conditions language that would be applied to all grants. This content will be accessible from this document as it is finalized and implemented.

There are other options to access UAS data for those programs **not currently supported** by appropriations specifically authorized to hire contractors to fly UAS missions. They are listed below.

UAS Policy Information: Programs **not currently supported** by appropriations specifically authorized to use aircraft may utilize the following options for accessing UAS data:

- **Contract:** Programs may acquire **pre-existing data** by contract that may have been previously gathered by UAS.
- **Interagency Agreement:** If another agency contributes funds for use of its aircraft for a project, EPA may enter an IA to provide funds/other resources for that project from any appropriation.
 - The other agency must cover 100% of the costs of aircraft.
 - EPA may not use funds that have not been specifically appropriated for the use of aircraft or UAS to pay for flight-related costs.

- **Grants (including Cooperative Agreements):** EPA grantees are not restricted from using grant funds for UAS-related costs so long as doing so would be within the scope of the grant and otherwise allowable under the grant regulations. EPA **may not use State and Tribal Assistance Grant (STAG)** funds to use a UAS directly, even in a direct implementation scenario or when providing in-kind assistance to a grantee, because STAG funds are not specifically appropriated for the purchase, maintenance, or operation of aircraft by EPA.

Privacy, Civil Rights and Civil Liberties Protections

It is important to understand privacy, civil rights and civil liberties protections prior to directing UAS data collection activities. **The use of UAS** may be viewed with skepticism by the public, therefore project managers must ensure that civil rights, constitutional, privacy, property access, and data management/dissemination practices are adhered to as described in the UAS Policy and outlined below.

For questions about any of the potential legal issues discussed in this section, please contact [OGC's Civil Rights and Finance Law Office](#). Additional procedures for reporting civil rights and civil liberties concerns are planned.

Civil Rights and Civil Liberty Protections

- **UAS Policy Information:** EPA is in the process of developing civil rights and civil liberties complaint procedures to receive, investigate and address, as appropriate, civil rights and civil liberty complaints regarding the EPA's use of UAS. For questions regarding civil rights and civil liberties, please see [OGC's Civil Rights and Finance Law Office](#) website.

Privacy

UAS Policy Information: All EPA employees will comply with the Privacy Act, EPA's Privacy Policy and procedures, any other EPA privacy guidance. EPA resources are provided below.

- [EPA's Privacy Act Website](#)
- [EPA Information Security Policy](#)
- Any EPA directed data collection efforts using UAS that may collect any Personal Identifiable Information (PII) or Sensitive Personal Identifiable Information (SPII) are required to ensure that a **Privacy Impact Assessment** has been submitted for the system in which the UAS data will be stored and that all other aspects of EPA's Privacy Policy are adhered to. Please contact your Liaison Privacy Official early in the project planning process to ensure that all legal and policy requirements are being met.
 - Please visit the following website for more information:
<https://www.epa.gov/sites/production/files/2013-11/documents/cio2151-p-04.1.pdf>
 - A Privacy Impact Assessment template is accessible [here](#) (internal EPA access only).
 - Please direct privacy related questions to the [Liaison Privacy Official](#) (internal EPA access only) or to the National Privacy Office at privacy@epa.gov.

- **UAS Policy Information:** EPA directed UAS operations that occur in an airspace that is within private property, (i.e., outside of publicly navigable airspace), may first need to obtain a **property access agreement** unless EPA already has the authority to enter the property. An example provided by EPA Region 1 is available [here](#) (internal EPA access only).
- Please see the section above titled [Project Site Considerations](#) to view additional recommendations regarding privacy.

Accountability

- **UAS Policy Information:** Policies and procedures are established, or confirm that policies and procedures are in place, that provide meaningful oversight of individuals who have access to sensitive information (including any PII) collected using UAS. Link to [EPA's Quality Program](#).

Transparency

- **UAS Policy Information:** EPA will **provide notice to the public** regarding the status of the Agency UAS Program, where they are authorized to operate and descriptions of categories of UAS missions as well as changes that would significantly affect privacy, civil rights, or civil liberties.
- Using the [EPA Tool to Report on UAS Activities](#) (internal EPA access only) to document flight details at the time of mission execution will result in reports that should address this requirement.
- Information collected via UAS at EPA should be documented with complete metadata and shared (internally at EPA or externally) to the extent possible. Metadata and data may be shared via the EPA's [Environmental Dataset Gateway \(EDG\)](#). Questions regarding data sharing, metadata, and contributions to EDG can be sent to edg@epa.gov. This will allow EPA to be in compliance with [EPA's Enterprise Information Management Policy](#) and Title 2 Open Government Data Act of the 2018 Foundations for Evidence-Based Policymaking Act - 2018 Open Government Data Act.

IT Security

- **UAS Policy Information:** EPA Offices conducting data collection efforts using UAS **must have a plan in place** for how they are going to collect, process, analyze and disseminate data gathered by a UAS.
- EPA personnel directing UAS projects should follow their Region's or NPM's UAS implementation plan to understand their organization's blueprint for UAS data management.
- Review existing data management and storage plans developed for your NPM or Region to understand controls for storing, reviewing, securing, redacting, and disseminating photos, videos, monitoring data, and geospatial products. The UAS Implementation Plan may include references to existing NPM Quality Assurance Project Plans.

Compliance Monitoring and Enforcement

- If this is a compliance monitoring and enforcement mission, please review EPA's Office of Enforcement and Compliance's UAS Implementation Plan when that becomes available.

- **UAS Policy Information:** EPA enforcement personnel may not use, or cause to be used, UAS over a person's private property for the purpose of investigating that person's noncompliance with federal environmental law or failure to meet obligations under an enforcement instrument, unless:
 - The person has granted consent to the use of UAS, including consent granted in a settlement agreement or consent decree for the purpose of monitoring compliance with such agreement or decree;
 - EPA has obtained a search warrant or an access order from a judge allowing such use;
 - There is a situation that may present an imminent and substantial endangerment to health or the environment; or
 - EPA enforcement personnel have obtained the written approval of the Administrator for use in a particular situation and location and such use has not been denied by a judge.
- **UAS Policy Information:** EPA enforcement personnel may not use data collected from a UAS unless:
 - The use of the UAS is authorized above;
 - The use of the UAS was authorized by another National Program Manager under section 7 or by another federal or state agency, and:
 - The use of the data by EPA enforcement personnel is to support initiating an investigation or a request for a search warrant or access order, or
 - The use of such data by EPA enforcement personnel to support an allegation of noncompliance is only to corroborate information not collected by UAS.

UAS Data Management

UAS Policy Information: All EPA data collection efforts that use UAS shall adhere to requirements set forth in [EPA's Enterprise Information Management Policy \(EIMP\), H.R.4174 - Foundations for Evidence-Based Policymaking Act of 2017](#) and [H.R. 302 Subtitle F Geospatial Data Act of 2018](#). Data shall also be managed according to the appropriate records management schedule and adhere to requirements outlined in [EPA's Records Management directives and memoranda](#).

Project managers should review minimal requirements for data delivery as outlined in the [National Geospatial Deliverable Standard](#).

Data Delivery

- EPA Region 9 has created a [US. EPA Region 9 Guidance for Unmanned Aerial Systems \(UAS\) Data Collection and Delivery](#) (EPA internal access only) document that describes best practices in UAS data collection as well as guidance on UAS data delivery (2021). The guidance offered in the document is NOT required for UAS activities outside of Region 9, but it is encouraged that it be considered as EPA staff develop workplans, contracts and other agreements for UAS services. The document covers best practice recommendations in the following areas:
 - Guidance for UAS Data Collection
 - Suggested camera equipment and settings
 - Flight planning software

- Georeferencing
- Photogrammetric Processing
- Guidance for UAS Data Delivery to EPA
 - Project file types and documentation
 - Directory structure and metadata
 - Data transfer

Data Processing:

- **Photogrammetry:** Although several software applications for data processing are being developed and expanded within both federal and private sectors, the common method of processing aerial imagery for photogrammetry uses Structure from Motion (SfM) to generate such products as point clouds, orthomosaics, and DEMs. As a matter of general guidance, raster products (e.g., orthophotos, DEMs) should be exported as GeoTIFF files. If compression is necessary, then LZW is recommended. Very large files may split into blocks, but it is not advisable to write BigTIFF files.
- **Geospatial Analysis:** Data products delivered to EPA can be analyzed using GIS tools available to EPA through the agency's Esri Enterprise Agreement. In particular, ArcGIS Pro has a number of powerful geoprocessing tools for analyzing raster data and visualizing 3D data, and data can be shared via the EPA GeoPlatform.

Data Transfer: EPA users with valid LAN credentials are free to use GoAnywhere SecureMail to transfer files to and from any party with a valid email address. The service is free of charge, the size limit for individual files is 10 GB, and files may remain on the server no more than 45 days before being automatically purged. Requests can be sent by email to external parties, who then follow a link provided in the email to securely upload and submit data to EPA. To use this service, visit <https://newftp.epa.gov/> and log in with a LAN ID and password. For more information and guidance, see: https://usepa.sharepoint.com/sites/oei/epa_geo_resources/SitePages/GoAnywhere-SecureMail.aspx (internal EPA access only)

Hosting Options

- EPADataCommons is a hosting space available for use by EPA. Currently, it consists of a high-performance ftp. For more information, please contact edg@epa.gov.
- Limited Pilot opportunities are available to take advantage of AWS cloud hosting as well as DMAP analytics abilities. For more information contact: EPA_UAS@epa.gov

Metadata

- Processed deliverables should include metadata following [EPA's Metadata Technical Specification](#) and be cataloged in the [Environmental Dataset Gateway \(EDG\)](#), as applicable.
- [The EPA Metadata Editor \(EME\) website](#) provides several tools and training for creating metadata.
- Contact the EDG team for further assistance at edg@epa.gov.

Additional UAS Data Collection Recommendations

- For projects where aerial imagery will be collected and rectified, it is advisable to clearly specify the locational control needed, and to plan for ground truthing collected data to ensure that the desired locational accuracy is obtained.
- Depending on the UAS contractor selected, your team may or may not be responsible for post-processing data. You should be prepared to ensure that the contractor has the post processing skills necessary or that your in-house team has the qualifications and software necessary to post-process the data to the standards you require.
- The level of effort required to put a UAS contract into place can be substantial. If additional tools beyond the original scope of work can be deployed during an EPA UAS field project to help collect the most beneficial dataset (as opposed to returning multiple times by multiple offices or agencies flying multiple UAS), it makes sense to do so. As such, adding payload from other projects that may benefit from data collection within the same area can add significant value to UAS flights and offset the level of effort required to put such efforts into place.

Forms and Templates Related to UAS Roles and Responsibilities

This section **does NOT** list all roles and responsibilities related to UAS operations at EPA. **It includes only those responsibilities for each role where there are resources within this document that may be used to assist individuals in meeting the requirements for that role.** For an exhaustive list of roles and responsibilities related to UAS use at EPA, please see the [EPA UAS Policy](#).

- **National Program Managers (NPMs)/Assistant Administrators (AA)**
 - Establishing UAS Procedure/Implementation Plan for the NPM, which includes categories and conditions under which the use of UAS will and will not be allowed within their respective programs.
 - Example UAS Procedures are located at the [EPA UAS CoP SharePoint Site \(EPA internal access only\)](#)
 - Organization-specific training in accordance with the Agency-wide UAS directives
 - Reporting to the EPA CIO on an annual basis using the [EPA Tool to Report on UAS Activities \(EPA internal access only\)](#)
 - Participating in the [EPA UAS Community of Practice \(EPA internal access only\)](#)
- **Regional Administrators (RA) and Other Key Officials (e.g., Deputy Regional Administrators, Mission Support Division Directors and Office Directors, Senior Information Officials, Information Management Officers, Senior IT Leaders)**
 - Except in exigent circumstances, [provide written notification at least three working days in advance of any use \(single use/event\) of UAS to the NPM and the Office of Public Affairs.](#)
 - The UAS Implementation Plan or Procedure for each NPM should be followed concerning notifications and approvals.
 - A list of public affairs specialists for each Region is available in the [Appendix](#).

- During exigent circumstances, use of UAS must still comply with UAS policies, procedures, and guidelines, including NPM Established Categories and Conditions of UAS Uses, and advance notice should be provided to the NPM and Office of Public Affairs as soon as possible.
- Developing and instituting organization specific training and implementation plans in accordance with the Agency-wide UAS directives issues by the EPA CIO.
- Participating in the [EPA UAS Community of Practice](#)
- **Chief Information Officer (CIO)**
 - Approving, issuing, and managing EPA-wide policies, standards, procedures and guidance on Unmanned Aircraft Systems (UAS).
 - Addressing privacy concerns
 - [Coordinating the UAS Community of Practice](#)
 - Collecting and sharing with the public an annual report summarizing UAS operations in the Agency during the previous fiscal year.
 - [EPA Tool to Report on UAS Activities](#)
 - Managing the public [EPA UAS Website](#)

Reporting Requirements

Individuals using UAS technology at EPA must provide proper notification and reporting of such use. Reports and notifications are required both in advance of UAS flights (pre-flight notifications) and at the time that the overall mission/project begins. These are described below.

- **Pre-flight Notification:** Provide written notification at least three working days in advance of any use (single use/event) of UAS to the National Program Manager (NPM) or other official specified in the NPM's Implementation Plan and the Office of Public Affairs. See the [UAS Communications Materials](#) section of this document for more information.
- **Mission Reporting:** Use [EPA Tool to Report on UAS Activities](#) to document the mission at the start of mission execution. Programs or Regions may decide to adapt this tool to fit their UAS needs more specifically. The information provided through this tool (and/or other Region or Program specific reporting tools) will be used to populate the Annual Summary Report Public Access developed by the EPA CIO that summarizes UAS operations in the Agency during the previous fiscal year.

Appendix

EPA UAS Key Points of Contact

Key subject matter experts for the following areas:

- **Personally Identifiable Information:** Privacy Correspondence Inbox, privacy@epa.gov mailbox; [Liaison Privacy Officials](#) (internal EPA access only)
- **Security:** contact your Security Information Officer (SIO)
- **Acquisition Questions** - Send questions to OMS-ARM-OAS-AcquisitionPolicy@epa.gov or your Contracting Officer.
- **Legal Questions Regarding Finance and Grants:** EPA_UAS@epa.gov
- **Regional Public Affairs Directors (PADs):** internalcomms@epa.gov

EPA UAS Web Resources

The following resources can assist in getting started with UAS at EPA.

- [EPA UAS Community of Practice](#) (EPA internal access only)
- [Internal EPA UAS SharePoint site](#) (EPA internal access only)
- [UAS Website](#)
- [UAS Fact Sheet](#)

EPA UAS Forms, Tools and Templates

The following forms, tools, and templates may assist individuals in adhering to UAS reporting and communication requirements.

- *EPA Tool to Report on UAS Activities*
 - Access the EPA Tool to Report on UAS Activities [here](#). (EPA internal access only)
 - OMS has developed an application that will collect data on EPA UAS Missions flown. This tool allows EPA personnel to enter required reporting information concerning UAS missions, flights executed during each mission and how data were captured and disseminated. OMS is requesting that NPMs and Regions include reporting through the tool in their implementation plans.
 - NPMs and Regions may choose to develop their own versions of this tool that expands on the basic form as necessary for Program or Region-specific needs. The OMS tool may be able to be configured to pull from Program/Regional specific tools. Please contact Kaitlin Kean or Ana Greene if this is of interest to your organization.
 - Users of the tool may also view reports that have been submitted for UAS flights to date.
 - Updates and enhancements to the EPA UAS Reporting tool will be ongoing. Submit requests for tool enhancements or fixes [here](#). (EPA internal access only)
- *Private Property Access Agreement*
 - This agreement is only required if UAS operations occur over private property. An example provided by EPA Region 1 is available [here](#). (EPA internal access only)

- *Privacy Impact Assessment (PIA)*
 - A Privacy Impact Assessment template is accessible [here](#). (EPA internal access only)
 - Please visit the following website for more information:
<https://www.epa.gov/sites/production/files/2013-11/documents/cio2151-p-04.1.pdf>
- *NPM Established Categories and Conditions of UAS Uses*
 - EPA's Office of Land and Emergency Management (OLEM) has developed their own [NPM UAS procedure](#) (EPA internal access only), which includes NPM Established Categories and Conditions of UAS Uses.
 - A list of all NPMs that have developed their own procedures containing NPM Established Categories and Conditions of UAS Uses is accessible [here](#). (EPA internal access only)
- *UAS Communication Materials*
 - Communications materials related to UAS Activities are provided [here](#) (EPA internal access only). These resources can assist EPA UAS project managers in planning for and carrying out communications to the public regarding UAS activities. Communications materials (which are all only available for internal EPA staff) include:
 - [EPA OMS Desk Statement Template](#)
 - [EPA Communications Planning Tool](#)
 - [UAS Communications Plan \(Region 1 Example\)](#)
 - [UAS Fact Sheet \(Region 1 Example\)](#)

EPA UAS Community of Practice (CoP)

The best way to find out what is happening with UAS activities at EPA is through participation at the EPA UAS CoP. Members share their experiences, lessons learned, and ongoing efforts with UAS technology at EPA to leverage advances in knowledge with this technology at EPA. An overview of the CoP, including links to resources and ways to sign up are provided below.

- **Goals**
 - Share UAS news, requirements, experience, and technical information.
 - Standardize UAS practices across EPA.
 - Contribute to EPA UAS resource development.
 - Build technical and practical knowledge base.
- **Meeting Schedule (Generally)**
 - Monthly, the second Monday of each month
- **Membership**
 - Signup sheet available [here](#) (EPA internal access only)
 - Required to have at least one member from all NPMs and Regions.

- All EPA personnel and contractors supporting EPA are welcome.
- Materials at [CoP Teams Channel](#) (EPA internal access only)
- [Internal EPA UAS Website](#)
<https://usepa.sharepoint.com/sites/EPAUASCommunityofPractice/SitePages/UAS-Community-of-Practice.aspx>

Sample Language for Contracts and Interagency Agreements

Contract Language and Statement of Work submitted by EPA Regions and Program Offices are provided at the [EPA CoP Teams/SharePoint site](#) (EPA internal access only).

- [Open the Sample Contracts and SOWs Page in SharePoint](#)
- [Open the Sample Contracts and SOWs Page in Teams](#)

Content within this folder will be added as EPA offices conduct UAS missions and contribute to the collection. The examples are intended as basic language that may be of value to others in writing UAS contracts, agreements, or grants.